

Listing of the Claims:

The following is a complete listing of all the claims in the application, with an indication of the status of each

- 1 1. (Currently amended) A wavelength division multiplexing
2 transmission system in which a plurality of remote apparatuses are
3 connected to a station apparatus which communicates with said remote
4 apparatuses using a given plurality of wavelengths, wherein each of
5 said remote apparatuses comprises:
6 wavelength selecting means which selects a wavelength;
7 wavelength separating means which separates an optical signal of a
8 selected wavelength from an optical signal including a plurality of
9 wavelengths for separating an optical signal including a plurality of
10 wavelengths into separated optical signals;
11 signal output means which outputs a reception status signal
12 indicating whether or not a separated optical signal is received from the
13 wavelength separating means;
14 ~~optical receiving means for receiving said separated optical signals~~
15 ~~from said wavelength separating means and for outputting reception~~
16 ~~status signal indicating whether or not each of the given plurality of~~
17 ~~wavelengths used in the transmission system is being received;~~
18 wavelength control means which determines whether the selected
19 wavelength is a used wavelength or an unused wavelength on the basis of
20 the reception status signal, and controls the wavelength selecting means
21 until the unused wavelength is selected by the wavelength selecting means
22 ~~for determining an available wavelength as a transmission and reception~~
23 ~~signal on the basis of said reception status signal; and~~
24 optical transmitting means which transmits for transmitting an
25 optical signal of the unused ~~said available~~ wavelength determined by said
26 wavelength control means.

1 2. (Currently amended) The wavelength division multiplexing
2 transmission system according to claim 1, wherein said wavelength control
3 means sets the unused ~~said available~~ wavelength as a transmission and
4 reception signal and outputs a wavelength control signal for setting the
5 unused ~~said available~~ wavelength.

1 3. (Currently amended) The wavelength division multiplexing
2 transmission system according to claim 1, wherein the ~~said~~ wavelength
3 control means determines a ~~the~~ wavelength of an unreceived optical signal
4 as the unused ~~among the wavelengths used in the transmission system as~~
5 ~~said the available~~ wavelength and sets the unused ~~said available~~
6 wavelength as a transmission and reception wavelength to be used in the
7 ~~said~~ remote apparatus.

1 4. (Currently amended) The wavelength division multiplexing
2 transmission system according to claim 1, wherein the ~~said~~ wavelength
3 control means determines a ~~the~~ wavelength of a received optical signal as
4 the unused ~~said available~~ wavelength and sets the unused ~~said available~~
5 wavelength as a transmission and reception wavelength ~~signal~~ to be used
6 in the ~~said~~-remote apparatus.

1 5. (Currently amended) The wavelength division multiplexing
2 transmission system according to claim 1, wherein the ~~said~~-station
3 apparatus comprises optical control means which determines ~~for~~
4 ~~determining~~ a wavelength to be used, on the basis of an optical signal
5 received from ~~said~~ the remote apparatus.

1 6. (Currently amended) The wavelength division multiplexing
2 transmission system according to claim 1, wherein the said station
3 apparatus is arranged to prevent an optical signal having the same
4 wavelength as an unreceived wavelength ~~among wavelengths used in said~~
5 ~~transmission system~~ from being outputted and outputs an optical signal
6 having the same wavelength as a received wavelength.

1 7. (Currently amended) The wavelength division multiplexing
2 transmission system according to claim 1, wherein the said station
3 apparatus comprising ~~comprises~~:
4 wavelength demultiplexing means which demultiplexes a for
5 ~~demultiplexing the~~ wavelength of a received optical signal;
6 optical receiving means which receives ~~for receiving~~ an optical signal
7 demultiplexed by the said wavelength demultiplexing means;
8 optical output control means which determines ~~for determining~~, as a
9 transmission wavelength, an optical signal having the same wavelength as
10 that of an optical signal received by the said optical receiving means;
11 optical transmitting means which transmits ~~for transmitting~~ an
12 optical signal having the transmission wavelength determined by the said
13 optical output control means; and
14 wavelength multiplexing means which multiplexes ~~for multiplexing~~
15 the wavelength of the optical signal transmitted by the said optical
16 transmitting means.

1 8. (Currently amended) The wavelength division multiplexing
2 transmission system according to claim 1, wherein each of the said remote
3 apparatuses and the said station apparatus are connected with each other
4 through optical branching and coupling means.

1 9. (Currently amended) The wavelength division multiplexing
2 transmission system according to claim 8, wherein the ~~said~~ optical
3 branching and coupling means is an optical coupler.

1 10. (Currently amended) The wavelength division multiplexing
2 transmission system according to claim 8, wherein the ~~said~~-optical
3 branching and coupling means is a wavelength demultiplexing and
4 multiplexing means.

1 11. (Currently amended) The wavelength division multiplexing
2 transmission system according to claim 1, wherein the ~~said~~-plurality of
3 remote apparatuses and the ~~said~~ station apparatus are connected in a star
4 topology.

1 12. (Currently amended) The wavelength division multiplexing
2 transmission system according to claim 1, wherein the ~~said~~-plurality of
3 remote apparatuses and the ~~said~~ station apparatus are connected in a tree
4 topology.

1 13. (Currently Amended) A remote apparatus in a wavelength division
2 multiplexing transmission system in which a plurality of remote
3 apparatuses are connected to a station apparatus and communication is
4 performed among ~~said~~ the remote apparatuses and the station apparatus
5 using a given plurality of wavelengths, said remote apparatus comprising:
6 wavelength selecting means which selects a wavelength;
7 wavelength separating means which separates ~~for separating~~ an
8 optical signal of a selected wavelength from an optical signal including a
9 plurality of wavelengths ~~into separated optical signals;~~

10 signal output means which outputs a reception status signal
11 indicating whether or not the separated optical signal is received from the
12 wavelength separating means;

13 ~~optical receiving means for generating and outputting a reception~~
14 ~~status signal indicating whether or not each of the given plurality of~~
15 ~~wavelengths used in the transmission system is being received;~~

16 wavelength control means which determines whether the selected
17 wavelength is a used wavelength or an unused wavelength on the basis of
18 the reception status signal, and controls the wavelength selecting means
19 until the unused wavelength is selected by the wavelength selecting means
20 ~~for determining an available wavelength as a transmission and reception~~
21 ~~signal on the basis of said reception status an optical signal; and~~

22 optical transmitting means which transmits ~~for transmitting~~ an
23 optical signal of the unused wavelength determined by the ~~said available~~
24 ~~wavelength determined by said wavelength control means.~~

1 14. (Currently amended) The remote apparatus according to claim 13,
2 wherein the said wavelength control means sets the unused ~~said available~~
3 wavelength as a transmission and reception signals and generates and
4 outputs a wavelength control signal for setting the unused ~~said available~~
5 wavelength.

1 15. (Currently amended) The remote apparatus according to claim 13,
2 wherein the said wavelength control means determines the wavelength of
3 an unreceived optical signal as the unused ~~among the wavelengths used in~~
4 ~~the transmission system as said available~~ wavelength and sets the unused
5 ~~said available~~ wavelength as a transmission and reception wavelength.

1 16. (Currently amended) The remote apparatus according to claim 13,
2 wherein the said wavelength control means determines the wavelength of

3 a received optical signal as the unused ~~said available~~ wavelength and sets
4 the unused ~~said available~~ wavelength as a transmission and reception
5 wavelength.

17 -19. (Canceled).

1 20. (currently amended) A method for adding a remote apparatus to a
2 wavelength division multiplexing transmission system in which a plurality
3 of remote apparatuses are connected to a ~~the~~ station apparatus and
4 communication is performed among the ~~said~~-remote apparatuses and the
5 station apparatus using a given plurality of wavelengths, said method
6 comprising:
7 selecting a wavelength;
8 separating an optical signal of a selected wavelength form an optical
9 signal including a plurality of wavelengths ~~into separated optical signals;~~
10 ~~generating and~~ outputting a reception status signal indicating
11 whether or not a separated optical signal is ~~wavelengths used in the~~
12 ~~transmission system are being received;~~
13 determining whether the selected ~~an available~~ wavelength is a used
14 wavelength or an unused wavelength on the basis of said reception status
15 signal;
16 controlling the wavelength selecting means until the unused
17 wavelength is selected by the selecting step; and
18 transmitting an optical signal of the unused wavelength determined
19 by the determining step ~~said available~~.

1 21. (Currently amended) The method according claim 20, further
2 comprising:

3 generating and outputting, based on a result of the ~~said~~ determining
4 step, a wavelength control signal for setting the unused ~~said available~~
5 wavelength; and
6 setting, based on the ~~said~~ wavelength control signal, the unused
7 ~~said available~~ wavelength as a transmission and reception signal.